

Covert Micro-Tag Projectile System Based Upon Conversion of Body Heat into Stored Electrical Energy Used to Power Intermittent IR Pulses of Specific Frequency

22 September 2024

Simon Edwards

Research Acceleration Initiative

Introduction

High-Value Targets, whereas they only occasionally surface at meetings with subordinates, whereas facial recognition is generally not useful whereas their faces are virtually always covered and whereas HVTs generally spend only seconds in outdoor venues prior to entering a building where a meeting is to take place makes re-acquisition quite difficult. Many theoretical avenues for tagging attendees of such meetings have been explored, but no foolproof method for tagging and tracking HVTs attending meetings has been established.

Infrared sensing technology may be exploited in conjunction with specialized tags in order to track both individuals merely suspected of being HVTs as well as to follow those who attend meetings after a meeting has concluded in order to more completely map their network of associates and whereabouts after meetings.

Abstract

A platform such as the Global Hawk may be used to deliver a Perdix-type drone into the vicinity of a meeting of potential HVTs in a terror network. These miniature drones may be outfitted with pneumatic projector system capable of firing specialized tags the size of a grain of sand toward the nape of an individual one wishes to tag from a maximum range of 20 yards from a perch.

These sand-grain like objects would feature a thermo-electric conversion mechanism as well as a pulsing IR emitter which emits light intermittently with the aid of a quartz electrical accumulator which discharges each time it becomes maximally charged with electrons. The IR emitter would project single-mode IR light of a highly specific frequency so that suspected HVTs may be differentiated after mass-tagging events.

The body heat of the suspected HVT would enable the tag to continue pulsing indefinitely and despite its small size, each individual burst of light would be sufficiently bright to be seen from a sensitive IR collection platform in orbit.

The physical sensation associated with being struck by one of these sand grain-like objects would be comparable to an insect bite and would likely not be considered suspicious. The grain of sand would, due to the high velocity at which it is projected, bury itself sufficiently deeply in the dermis so as to be persistent for the requisite operational timescale.

No electronic components save for the LED emitter would be required to support the ongoing functionality of such a tag. The electrical converter, quartz and LED components would be highly miniaturized but non-computerized. The only peculiar thing about this LED emitter would be its brightness and its ability to emit light of extremely specific frequency.

Conclusion

Such technology would require little R&D and could be developed and deployed at low-cost, recommending it for development in support of intelligence-gathering operations.